

STATUS OF THE GENERA
UNGLA AND *MALLADA* NAVÁS*
(NEUROPTERA: CHRYSOPIDAE)

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This paper is the first in a series treating results of an examination of Navás material in several museums, and deals with two genera whose status has been problematical. One of these proves to be a striking example of a composite specimen, or "humbug".

A recent trend in chrysopid systematics is toward division of the genus *Chrysopa*, based primarily upon characters of the male genitalia. It appears that despite conservatism in wing and body characters, the genitalic structures exhibit considerable divergence. Furthermore, non-genitalic characters are by no means absent; for example, I estimate that at least 80% of the species of *Suarius* can be assigned to that genus on the basis of these characters, as discussed below. A problem arises from the plasticity of the genitalic structures. The principal generic criterion is the particular combination of tignum, gonosaccus, pseudopenis, or gonapsis present (plus whatever venational and female genitalic characters may be available). Any of these structures appears subject to reduction or loss by species within a taxon, with consequent high probability of erroneous assignment. Until a better understanding of evolutionary trends is achieved and additional characters are found, a period of nomenclatorial instability is to be expected. In my view, the inconvenience and confusion thus inevitably generated is amply justified by the pressing need to subdivide the genus *Chrysopa*, in which most species reside, into workably small fragments.

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Genus *Suarius* Navás 1914a: 73

=*Ungla* Navás 1914b: 224. New synonymy (subjective); type species, *U. annulata* Navás (by original designation).

Suarius is regarded as a distinct genus by Hölzel, 1970. Frequently species can be assigned here without reference to genitalic structures, on the basis of some combination of a series of rather variable characters: short pronotum with arcuate anterior margin, tarsal claws with a very wide notch and small basal expansion, short body and wing setae, coloration often predominately brownish, blackish, or yellowish, costal margin often narrow. Usually the zig-zagging of veins comprising pseudomedia not strong, so that 2 or 3 sections of psm consist of crossveins and the apical pseudo-medial veins (apparent crossveins) are strongly inclined (Fig. 1A). Basal inner gradate crossvein ends on psm in the hind wing at least, in nearly all New World species. Frequently, enough of these characters are present to result in a distinctive habitus, reminiscent of a *Pimachrysa* or small *Nodita*.

The male genitalia consist of gonarcus, with mediuncus (=arcesus), gonocoxites (=entoprocessi), frequently with gonosetae and gonocristae, never with gonopsis or tignum; eighth and ninth sternites fused, microtholi occasionally present. The condition of media and generalized male genitalia preclude derivation of this genus from *Chrysopa* s. str. or *Mallada*.

Ungla was based upon *U. annulata* Navás, known from a single specimen, and distinguished by its unusual foreleg. Navás states (translation mine), "The peculiar form of the anterior leg with long and thin tibial spurs and claws, a thing which is not seen in any other genus of chrysopids; the same with the elongate tarsus, is characteristic of this new genus". N. Banks' card file (unpublished) contains a note which succinctly expresses the suspicion long shared by me and others: "leg of a myrmeleontid". The type specimen indeed proves to be a *Suarius argentinus* with a single grotesquely oversized myrmeleontid leg loosely clasped among its own, undoubtedly acquired during the final struggle in the killing bottle. As the genus *Ungla* was based upon the composite nature of the unique specimen of the type species, the name must be rejected under the provisions of Article 1 of the International Code. Furthermore, *Suarius* was published earlier and has priority. According to C. Courtoy (pers. comm.) the number of the "Annales de la Société scientifique de Bruxelles" containing the description of *Suarius* was published either in December 1913 or January 1914; the entire

volume was published prior to August 1914. *Ungla* was not published until October 1914.

This common species proves to have several synonyms:

Suarius argentinus (Navás) 1911, new combination

Figure 1

Hypochrysa argentina Navás 1911: 267, "Chaco de Santiago del Estero, Bords du Río Salado, Env. d' Icaño, E.-R. Wagner 1903, September. *Hypochrysa argentina* Nav." Tjeder's lectotype label is also present. Female, in Paris Museum (examined).

Synonyms:

Chrysofa argentina, Tjeder 1971: 112 (lectotype designation, re-description).

Ungla annulata Navás 1914b: 224. New synonymy. "Huasan (R.A.), 11-1912, *Ungla annulata* Nav., Navás S. J. det., Typus." Female, in Navás collection, Colegio del Salvador, Zaragoza, Spain (examined).

Chrysofa graciana Navás 1919: 301, 1927: 21. New provisional synonymy. "Alta Gracia, II-918, Bruch, *C. lanata* v. *graciana*." Male, in the Museum de la Plata, Buenos Aires (seen). Although careful examination of the type was not possible, two females in the Paris Museum identified by Navás, and from the same locality, are *S. argentinus*.

REDESCRIPTION

Head markings variable. Clypeus often black-bordered; genae with dark mark varying from brown dot to black extending from eye to mandibular articulation and anterior tentorial pit. A brown X-mark between antennae; anterior forks often separate or absent; posterior portion borders antennal fossae. Red-brown vertex stripes appear continuation of X mark posteriorly, but include hypodermal red. Dorsal antennal fossa with transverse punctate red-brown mark; may extend over entire space, often absent. Scape with lateral brown stripe and dorsal mark, which may be apical spot or wide diffuse stripe which extends partially or entirely to base of scape, or is absent. Pedicel dark-annulate, flagellum pale or light brown. Palpi tan or black, pale at joints.

Male genitalia. Ectoprocts short (Fig. 1B), broad, rounded, without apodeme hinged on 8+9 sternite. Apex of sternite 8+9 rounded, about half as wide as base of sternite 8, with normal setae at posterior margin; no microtholi. Gonarcus (Fig. 1C,D) broadly arcuate, with lateral blunt spinose entoprocessus; mediuncus lightly sclerotized, with blunt tip. Gonosaccus double, with stout, pale, hollow setae. Gonocristae absent.

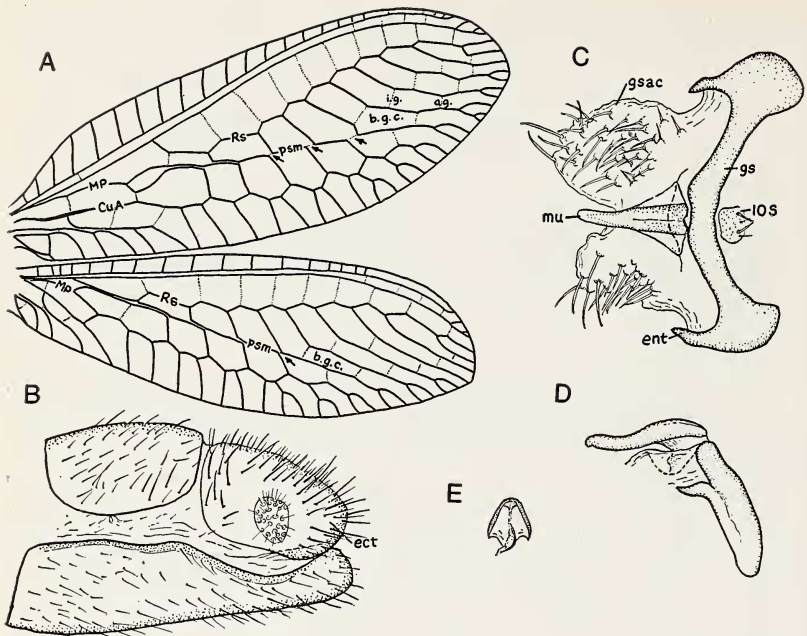


Figure 1. *Suaris argentinus*. A. Wing venation, showing portions of pseudomedia consisting of crossveins (arrows) and inner gradate series ending on a branch of Rs in the forewing, on psm in the hindwing. Crossveins in discal area of wing indicated by dots; overlap of veins forming psm shown by double lines. Male genitalia: B, apex of abdomen, lateral; G, gonarcus and mediuncus, dorsal, gonosaccus everted; D, same, lateral; E, hypandrium internum.

Abbreviations: bgc — basal gradate cell, CuA — cubitus anterior, ect — ectoproct, ent — entoprocessus, ig — inner gradate crossvein, gs — gonarcus, gsac — gonosaccus, MA — media anterior, MP — media posterior, mu — mediuncus, o.g. — outer gradate crossveins, 10S — tenth sternite.

Female genitalia (see Tjeder, 1971). Seminal bursa small, opening ventrally directly into the spermatheca; bursal glands slender, dorsal.

This species is recognizable by the heavy wing veins, alternately black and white, conspicuous crossveins beneath stigma, and head markings. The short ectoprocts, without hinge, are unusual, but also occur in *S. squamosus* (Tjeder) from Africa, *S. confraternus* (Banks) 1913 n. comb. (*Chrysopa*), from Argentina, and several undescribed species. The type of *U. annulata* differs slightly from that of *S. argentinus* in having the stigmas opaque pale yellow (probably an artifact of preservation) and having an irregular longitudinal dark stripe in the dorsal antennal fossa. *C. venulosa* Navás 1918 and *C. nervulosa* Navás 1924 are probably *S. argentinus*; I have not seen the types.

Material examined — the following are in my collection: R. Argentina, Santiago del Estero: Choya, Oct.-Nov. 1961, 13 females, 3 males; Fernandez, Feb. 1957, 11 females, 2 males; El Pinto, Dec. 1956, 2 females. La Rioja: Patquía, 600m., Dec. 1957, 1 female, 2 males.

Genus *Mallada* Navás 1925:24

Mallada basalis is conspicuously dimorphic sexually, the males having heavy elongate stigmas, and Sc and Rs fused in the hindwing. These features were noted by Navás, who based his genus *Mallada* upon the thickening of the stigmas. The type species of *Mallada*, by original designation, *M. stigmatus*, is a synonym of *M. basalis*. The type species of *Anisochrysa*, *A. paradoxa*, was also synonymized with *M. basalis* by Adams (1959: 25). *Anisochrysa* is therefore a junior objective synonym of *Mallada*.

Most species of *Mallada* can tentatively be assigned by venational characters. The inner gradate series in larger species with numerous veins extends basad parallel to psm, hence does not converge on psm, and the basal inner gradate crossvein does not end on psm, but on a branch of Rs, resulting in a y-formation. A similar configuration, as shown in Fig. 1A, forewing, occurs also in other genera such as *Suaris*, but is rare in *Chrysoperla* and *Chrysopa*, s. str. Psm in *Mallada* only very infrequently includes a crossvein (the only example of which I am aware is *M. venosellus* (Tjeder 1966, Fig. 1643), but commonly includes 1 to 3 crossveins in *Suaris*.

Mallada, named after the Spanish naturalist, D. Lucas Mallada, is masculine, necessitating changes in many terminations. It con-

tains numerous Old World species (Tjeder, 1966, Hölzel, 1970) but is not so important in the New World, where it is represented in North America by *M. perfectus* (Banks, 1895), (*Chrysopa*), n. comb., *M. luctuosus* (Banks, 1911), (*Chrysopa*), n. comb., and two undescribed species.

Navás referred *M. stigmatus*, *delmasinus* and *verticalis* to this genus. Their synonymy follows.

Mallada basalis (Walker), new combination

Chrysopa basalis Walker 1853: 239.

Synonyms:

Anisochrysa paradoxa Nakahara 1955: 145; Adams 1959:25.

Mallada stigmatus Navás 1925:24; Banks 1937:285. New synonymy.

Type: "Formosa, Taihorin, III-10. H. Sauter S.G. *Mallada stigmatus* Nav., P. Navás S.J. det., Type." Male, Berlin Museum (examined).

Mallada delmasinus Navás 1935:57; Esben-Petersen 1937: 57. New synonymy. Type: "Museum Paris, Iles Marquises, P. Simeon Delmas 1924, *Mallada delmasinus* Nav., Navás S.J. det., Type", male. Eleven additional specimens with the same data in Paris Museum (examined).

It is interesting that in 1927 Navás noted the sexual dimorphism in describing *C. delmasi* (female) and *C. delmasi* var. *densata* (male) from precisely the same locality and collector as material of *M. delmasinus*; the former species was synonymized with *M. basalis* by Esben-Petersen in 1937.

Another new synonym of *M. basalis* is *C. jolyana* Navás 1910: 194. The type, in the Paris Museum, is labeled "Port Sandwich, Nouv-Hebrides, Ile Maillicols, Dr. Joly 1903"; "*Chrysopa jolyana* Nav. (in Navás' hand)". It is a teneral female; the specimen I described (Adams 1959:27) is male, with the incompletely developed sclerotization of the genitalia typical of teneral specimens.

Suaris figuralis (Banks), new combination

Chrysopa figuralis Banks 1915: 626. Type: "Chosica, Peru 2800'. 10-VI, Parish, col." Mus. Comp. Zool., Harvard, Type 11984. male (examined).

Synonym:

Mallada verticalis Navás 1929: 19. New synonymy. Type: "Museum Paris, Perou Merid., Arequipa, Dr. E. Escomel 1922, *Mallada verticalis* Nav., P. Navás S. J. det., type" (examined). A single faded and wrinkled female, probably from alcohol, appears the same as the relatively common *S. figuralis*. Probably the specimen was assigned to *Mallada* because the stigma has been rendered opaque by preservation.

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